Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Prescribing the Authorized	)	
Unitary Rate of Return for	)	
Interstate Services of Local	)	CC Docket No. 98-166
Exchange Carriers	)	
	)	

COMMENTS OF GTE

GTE Service Corporation and its affiliated domestic telephone operating companies (collectively "GTE")[1] respectfully submit these comments in response to the Notice of Proposed Rulemaking in the above-captioned proceeding.[2] By the Notice, the Commission initiates a proceeding to consider represcription of the authorized rate of return for interstate access services provided by ILECs subject to rate of return regulation. In the *Notice*, the Commission seeks comment on the methods that should be used to calculate the ILEC's cost of capital. As the attached affidavit of Dr. James Vander Weide clearly demonstrates, "[i]f the Commission correctly estimates the cost of

---

1 GTE's domestic telephone operating companies are: GTE Alaska Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, The Micronesian Telecommunications Corporation, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., and Contel of the South, Inc.

2 Prescribing the Authorized Unitary Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 98-166, *Notice Initiating A Prescription Proceeding and Notice of Proposed Rulemaking*, FCC 98-222 (released October 5, 1998) (hereinafter "*Notice*").

capital using market values and market interest rates and costs of equity, it is likely to find that a [downward] change in the authorized rate of return for LECs can not be justified."[3] Given the Commission's pressing agenda to complete important matters that have far greater impact on carriers and their customers (*e.g.*, access charge reform, universal service systems, interconnection, reciprocal compensation, etc.), GTE urges the Commission defer the instant proceeding at least until such time as the major proceedings of the Telecommunications Act of 1996 have been substantially resolved.

I. THERE IS NO BASIS TO ALTER THE CURRENT PRESCRIBRED AUTHORIZED RATE OF RETURN 0F 11.25%.

A. The Requisites For Represcribing The Authorized Rate Of Return Have Not Been Met.

In its *1995 Rate of Return Represcription Procedures Order*,[4] the Commission established a "semi-automatic trigger" of a 150 basis point change above or below a certain reference point. The *1995 Order* stated that "[u]nder our trigger, we will issue a notice asking whether a represcription should ensue, whenever the triggering event occurs evidencing major changes in the capital markets."[5] In explaining why the trigger should not automatically cause a represcription proceeding, but only an examination of *whether* a proceeding is necessary, the Commission made clear that "[r]eprescription proceedings are costly and time consuming for this Commission and for participants.

---

[3] *See* Affidavit of James H. Vander Weide, a true and correct copy of which is attached hereto ("Vander Weide affidavit") at ¶ 4.

[4] 10 FCC Rcd 6788 (1995) ("*1995 Order*").

[5] Vander Weide affidavit at ¶ 31.

We think that it would better serve the public interest if we were to evaluate the need for a represcription proceeding once the trigger event occurs."[6] GTE agrees.

In considering whether represcription should occur, GTE believes that there must be a clear indication that -- viewed in their entirety -- the changes in the capital markets and the altered risks of the LECs since the last represcription are significant enough to warrant a new finding. Under the procedures envisioned in the *1995 Order*, the Commission would only initiate a represcription proceeding when the record developed in response to the Commission's "trigger driven notice" supported a proceeding based on "multiple measures of both debt and equity costs."[7] In contrast, the instant *Notice* only points to the interest rate decline in 10-year Treasury securities below the trigger point and fails to address the other major components of a weighted average cost of capital calculation. As the Vander Weide affidavit demonstrates, there are additional issues that must be addressed before prescribing a new rate of return. Simply stated, interest rate declines alone can not demonstrate that the prerequisite conditions necessary to initiate a represcription proceeding are present.

Nonetheless, if the Commission proceeds to prescribe a new rate of return, the rate of return must be based on economic principles and reflect currect market conditions. As Dr. Vander Weide sets forth in his affidavit, the financial community defines the weighted average cost of capital on a forward-looking basis. Historical costs have no basis in the calculation of this measurement. This is true for each

---

6 *Id.* at ¶ 32.

7 *Id.* at ¶ 33.

component of the calculation – cost of debt, cost of equity, and capital structure. Investors care little about a company's return on book equity. They are concerned about future risk adjusted returns on the current value of their portfolios – not historical returns on originally invested amounts. Consequently, companies must provide investors with adequate returns on the current market value of their securities in order to maintain credit and attract capital.

B. The Commission's Methodology Must Use A Forward-Looking Market Based Capital Structure That Reflects The Risk Associated With A Competitive Marketplace.

As economic theory dictates, not only do investors require a higher rate of return on riskier investments, they also require riskier companies to obtain a higher portion of their capital in the form of equity funds. Therefore, as Dr. Vander Weide explains, any methodology that uses a capital structure based on book values will fail to generate a weighted average cost of capital consistent with economic theory and what the marketplace will determine to be an appropriate cost of capital.[8] The Commission's proposed capital structure of 42.88% debt, 0.14% preferred stock and 56.98% equity is based on book data, and therefore inconsistent with market requirements. As Dr. Vander Weide states, the capital structure for competitive firms is closer to twenty percent debt and eighty percent equity.[9] The proposed capital structure thus fails to recognize the current risk faced by ILECs and will thereby lead to an unacceptable rate of return.

---

[8] *Id.* at ¶ 12.

[9] *Id.* at ¶ 21.

Instead of a capital structure based upon historic book data, the Commission must use a capital structure that reflects the ILECs' actual experiences in the capital markets as well their increased business risk. Dr. Vander Weide correctly observes that with the removal of barriers to entry into the local exchange market, as well as rapid advances in telecommunications technologies, competition for local exchange services is flourishing. The increased risk resulting from growing competition and rapidly changing technology in local exchange markets has caused investors to demand a higher risk premium for telecommunications investments[10].

Dr. Vander Weide also correctly observes that utilization of a book-based capital structure in determining a company's weighted average cost of capital has no basis in economic or financial theory. The utilization of a book-based capital structure is based on the assumption that the market value and book value of common equity is approximately the same. This assumption was developed on market conditions prevalent in the early to late 1980's and is no longer valid. During 1984, when the RBHCs were spun off from AT&T, the market to book ratio of the LEC holding companies (LECHCs) was 1.0, which means the market and the book value of common equity were virtually the same. At that time, the percentage of common equity in the capital structures of the LECs and the LECHCs was also approximately the same. This relationship changed dramatically in the late 1980's and 1990's..

At the end of 1997 the market to book ratio was 5.0, which means that market value was five times the book value of the LECHs common equity. Consequently, the

---

[10] *Id.* at ¶ 6.

weighted average cost of capital and returns anticipated by investors of the LECHCs is substantially understated when using a book-based capital structure in the calculation. Thus, it is now necessary to deviate form prior regulatory practice by adopting a market-based approach in measuring the weighted average cost of capital in order to provide LECs with a reasonable rate of return.

C. The Rate Of Return Must Reflect The Increased Risk That LECs Now Face In Their Markets.

Today, investors and financial practitioners recognize the competitive nature of local exchange service.[11] As Dr. Vander Weide states, "[t]he increased risk of investing in the LECs' local exchange operations is a direct result of: (1) increases in operating leverage; (2) increases in the level of competition; (3) rapidly changing technology; and (4) asymmetric regulation."[12] There is little question that the level of risk LECs face today is significantly higher than the level of risk faced at the time of the last represcription. Therefore, in order to be consonant with marketplace reality, the Commission must adopt a methodology to calculate the LECs weighted average cost of capital that is consistent with how the market will view the increased risk level of LECs when they attempt to maintain credit and attract capital. Dr. Vander Weide states that "[i]f the Commission persists in setting authorized rates of return based on embedded costs and book values, it is unlikely to achieve its goal of providing correct signals for

---

[11] *Id.* at ¶¶ 6, 25.

[12] *Id.* at ¶ 22.

entry, investment, and innovation."[13] Thus, only if the Commission adopts a market based calculation of the LECs' weighted average cost of capital – one that is consistent with economic theory – will the Commission achieve its goal of a competitive local exchange market.

II. THE LOW-END FORMULA ADJUSTMENT MARK ("LFAM") SHOULD NO LONGER BE LINKED TO THE RATE OF RETURN REPRESCRIPTION PROCESS.

The *Notice* additionally seeks comment on whether the Commission should change the low-end formula adjustment for local exchange carriers subject to price cap regulation and tentatively proposes to set the LFAM at 100 basis points below the rate of return prescribed in the instant proceeding.[14] GTE believes that it is no longer appropriate to link the LFAM to historic rate of return regulation. GTE therefore recommends that the LFAM remain at its present level or be increased based on a careful examination of how the LFAM functions in relation to price cap regulation.

The LFAM was established to "provide the proper balance of incentives and safeguards to our price caps plan."[15] It would be inappropriate to automatically change the LFAM when the Commission represcibes a rate of return without examining all the relevant aspects of LFAM. GTE believes that the instant proceeding is not the correct venue to conduct such an in depth examination - - doing so would only detract attention from the already complex issues involved in represcribing a rate of return. The

---

[13] *Id.* at ¶ 5.

[14] *Notice* at ¶ 55.

[15] *LEC Price Cap Order*, 5 FCC Rcd at 6807 (¶ 165).

Commission must sever the LFAM link to rate of return regulation in this and future represcription proceedings. Should the Commission wish to examine the LFAM issues, it should do so in a separate proceeding focused on all related aspects of that adjustment.

III. CONCLUSION.

GTE urges the Commission defer the instant proceeding at least until such time as the major proceedings of the Telecommunications Act of 1996 have been substantially resolved. However, should the Commission proceed with represcription, the Commission must adopt a methodology to calculate the LECs' weighted average cost of capital that is consistent with how the market will view the increased risk level of LECs when they attempt to maintain credit and attract capital. Proper application of such a methodology will lead to adoption of an authorized rate of return that is, in fact, higher that the current authorized rate. Additionally, in no event should the Commission continue to link the LFAM to historic rate of return regulation. Rather, the LFAM should

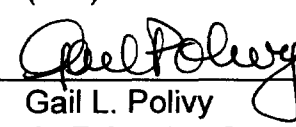
remain at its present level or be increased based on a careful examination of how the LFAM functions in relation to price cap regulation.

Dated: January 19, 1999

Respectfully submitted,

GTE Service Corporation and its affiliated domestic telephone operating companies

John F. Raposa
GTE Service Corporation
600 Hidden Ridge, HQE03J27
P.O. Box 152092
Irving, TX 75015-2092
(972) 718-6969

By 

Gail L. Polivy
GTE Service Corporation
1850 M Street, N.W.
Washington, DC 20036
(202) 463-5214

Their Attorneys

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Prescribing the Authorized	)	CC Docket No. 98-166
Unitary Rate of Return for	)	
Interstate Services of Local	)	
Exchange Carriers	)	

AFFIDAVIT OF JAMES H. VANDER WEIDE

I. Introduction

1. My name is James H. Vander Weide. I am Research Professor of Finance and Economics at the Fuqua School of Business, Duke University. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to clients in the electric, gas, insurance, telecommunications, and water industries. My business address is 3606 Stoneybrook Drive, Durham, North Carolina.

2. As a Professor at Duke University, I have taught courses in corporate finance, investment management, management of financial institutions, statistics, economics, and operations research, as well as a Ph.D. seminar on the theory of public utility pricing. I have also been active in executive education at Duke, directing and teaching in executive programs both stateside and abroad for leading international firms. In addition to my teaching, I have written a book entitled, *Managing Corporate Liquidity: An Introduction to Working Capital Management*, and numerous articles and research papers on such topics as portfolio management, the cost of capital, capital budgeting, the effect of regulation on the performance of public utilities, and cash management. I hold a Ph.D. in finance from Northwestern University and a B.A. in economics from Cornell University.

II. Purpose

3. In response to the Notice of Proposed Rulemaking in CC Docket 98-166, Bell Atlantic, GTE, and US West have asked me to: (1) review the proposed methodology for estimating the LECs' weighted average cost of capital; (2) evaluate whether the proposed methodology is consistent with economic theory and the Commission's goal of establishing "correct signals for entry, investment, and innovation "[1] in telecommunications markets; and (3) assess whether use of a correct definition of the weighted average cost of capital is likely to justify a change in the LECs' currently authorized rate of return.

4. I conclude that the proposed methodology is inconsistent with both the economic definition of the weighted average cost of capital and the Commission's goal of establishing correct signals for entry, investment, and innovation in telecommunications markets. Competitive firms make their entry, investment, and innovation decisions using a cost of capital calculated from *market* interest rates, *market* costs of equity, and the *market values* of the debt and equity components of the company's capital structure. The competitive market definition of the cost of capital is consistent with economic theory. In contrast, the Notice includes a proposal to calculate the cost of capital using an *embedded* cost of debt and a *book value* capital structure, just as the Commission has in the past. If the Commission sets an authorized rate of return based on embedded costs and book values, it is unlikely to achieve its goal of providing correct signals for entry, investment, and innovation. If the Commission correctly estimates the cost of capital using market values and market interest rates and costs of equity, it is likely to find that a reduction in the authorized rate of return for the LECs can not be justified.

[1] *Fifth Report & Order in the Matter of Federal-State Joint Board on Universal Service*, FCC 98-279, ¶10.

5. The policy of setting the LECs' authorized rate of return based on a book value definition of the cost of capital is rooted in an era when LECs were partially protected from competitive entry and the book value of the LECs' equity more closely approximated the market value of their equity. In considering a represcribed rate of return for the LECs, the Commission must recognize that the LECs' book value capital structures no longer approximate their market value capital structures. Setting the LECs' authorized rate of return based on a book value capital structure that significantly understates the equity in the LECs' market value capital structures would preclude the LECs from earning a rate of return that is commensurate with the return they could earn on other investments of the same risk.

6. In assessing the LECs' authorized rate of return, the Commission must also recognize that the LECs' investment risk has increased significantly since the Commission last authorized a unitary rate of return in 1990. Since that time, Congress has removed all barriers to entry into the local exchange market, and rapid advances in telecommunications technologies offer competitors an opportunity to enter the market at reasonable cost. As a result of these changes, competition for local exchange services is flourishing. The increased risk resulting from increased competition and rapidly changing technology in local exchange markets has caused investors to demand a higher risk premium for telecommunications investments. The Commission must recognize this higher risk premium in determining the LECs' authorized rate of return. Indeed, the Commission must now employ a market-based definition of the cost of capital that is consistent with the way firms measure the cost of capital in competitive markets.

III. Economists Define the Weighted Average Cost of Capital in Terms of Market Values, not Book Values.

7. Economists define the required rate of return, or cost of capital, for a particular investment as the return investors forego by making that investment rather than an alternative

investment of equal risk. Rational investors will not invest in a particular investment opportunity if the expected return on that opportunity is less than the cost of capital. Thus, the expected return on a particular investment, along with the cost of capital, provides a signal that investors can use to make resource allocation decisions. If the expected return on an investment in new telecommunications facilities exceeds the cost of capital, potential competitors will enter the telecommunications industry as new facilities-based providers. If the expected rate of return on investment in new telecommunications facilities is less than the cost of capital, potential competitors will invest their resources in other investments of comparable risk.

8. In defining the cost of capital, economists recognize that investors have different positions in the firm. Debt investors have a fixed claim on a firm's assets and income that must be paid prior to any payment to the firm's equity investors. Since the firm's equity investors have a residual claim on the firm's assets and income, equity investments are riskier than debt investments. Thus, equity investors require a higher rate of return on their investment than debt investors, and a firm's overall cost of capital depends on the mix of debt and equity in its capital structure.

9. The overall or weighted average cost of capital is a weighted average of the cost of debt and the cost of equity, where the weights are the percentages of debt and equity in the firm's capital structure. Consistent with the opportunity cost definition of the cost of capital, economists define the cost of debt as the market interest rate that a firm would have to pay on newly-issued debt obligations. In efficient markets, the market interest rate is also the best estimate of future interest rates. The correct economic definition of the cost of debt is thus forward looking and market oriented. The embedded cost of debt is an irrelevant concept to economists.

10. The correct economic definition of the cost of equity also incorporates the principle of opportunity costs. Thus, economists define the cost of equity as the return investors expect to receive on alternative equity investments of comparable risk. Since the return on an equity investment of comparable risk is not a contractual return, the cost of equity is more difficult to measure than the cost of debt. There is agreement, however, as I have already noted, that the cost of equity is greater than the cost of debt. There is also agreement among economists that the cost of equity, like the cost of debt, is both forward looking and market based.

11. The final components of the weighted average cost of capital are the percentages of debt and equity in a firm's capital structure. Economists measure these percentages by first calculating the market value of the firm's debt and the market value of its equity. Economists then calculate the percentage of debt by the ratio of the market value of debt to the combined market value of debt and equity, and the percentage of equity by the ratio of the market value of equity to the combined market values of debt and equity. For example, if a firm's debt has a market value of $20 million and its equity has a market value of $80 million, then its total market capitalization is $100 million, and its capital structure contains 20 percent debt and 80 percent equity.

12. Economists measure a firm's capital structure in terms of the market values of its debt and equity because market values are the best measure of the amounts of debt and equity that investors have invested in the company on a going-forward basis. The requirement to use market value weights is universally stated in the economics and finance literature. According to Copeland, Koller, and Murrin, for example, "[T]he estimate of the cost of capital must...employ market value weights for each financing element, because market values reflect the true

economic claim of each type of financing outstanding, whereas book values usually do not."[2] Likewise, Ross and Westerfield state, "Market value weights are more appropriate than book value weights because the market values of the securities are close to the actual dollars that would be received from their sale."[3] Furthermore, economists generally assume that the goal of management is to maximize the value of the firm, where the value of the firm is the sum of the market value of the firm's debt and equity. Only by measuring a firm's capital structure in terms of market values can its managers choose a financing strategy that maximizes the value of the firm.

IV. Investors and Financial Practitioners Define the Cost of Capital in Terms of Market Values, not Book Values.

13. The economic definition of the cost of capital is widely accepted by capital market participants. Homeowners measure the value of their homes in terms of market values, not historical cost or book values. Investors measure the return and risk on their portfolios in terms of market values, not book values. Companies use a market value definition of the cost of capital to make entry, investment, and innovation decisions.

14. To illustrate the general applicability of the use of a market value definition of the cost of capital and rate of return, suppose an investor has a portfolio which has a market value of $100,000 at the beginning of 1997. Also suppose that the value of the portfolio at the end of 1997 is $112,000 and that the investor earns interest and dividends of $3,000 during the course of 1997. Then the investor's rate of return in 1997 is 15 percent [(112 - 100/100) + 3/100 = 15 percent].[4]

---

[2] Tom Copeland, Tim Koller, Jack Murrin, *Valuation, Measuring and Managing the Value of Companies,* John Wiley & Sons, Inc., pp. 239—240.
[3] Stephen A. Ross, Randolph W. Westerfield, *Corporate Finance*, Times Mirror/Mosby College Publishing, p. 218.
[4] For simplicity, this example assumes that dividends and interest are not reinvested in the portfolio during the year.

15. Suppose that the investor in the previous example had purchased the portfolio in 1977 at a cost of $20,000. The fact that the investor purchased the portfolio in 1977 for $20,000 has no bearing on the investor's earned rate of return in 1997. Thus, the historical or embedded cost of the investment is irrelevant to the calculation of the investor's rate of return. Investors calculate their rates of return based on market values, not book values.

16. The economic definition of the cost of capital is also used by investors who hold both debt and equity in their portfolios. Investors who hold both debt and equity in their portfolios measure their required return by calculating a weighted average of their required returns on the debt and equity portions of the portfolio, where the weights are measured in terms of market values, not book values. For example, if a firm's debt has a market value of $20 million, its equity has a market value of $80 million, the market interest rate on corporate debt of similar risk is 7.5 percent, and the market required return on equity of similar risk is 15 percent, then the required rate of return on a $100 million portfolio containing all of the firm's debt and equity securities would be 13.5 percent (.20 x 7.5 percent + .80 x 15 percent = 13.5 percent). Thus, the investors' required rate of return from an investment in the firm is the same as the firm's weighted average cost of capital, where both the required rate of return and the weighted average cost of capital are measured in terms of market value weights.

17. As confirmed by recent surveys,[5] managers also use a market value definition of the weighted average cost of capital in making investment decisions. From the manager's perspective, the firm's cost of capital is equal to the return investors can earn on the market value of other investments of the same risk. Rational managers, like rational investors, will not

[5] Robert F. Bruner, Kenneth M. Eades, Robert S. Harris, and Robert C. Higgins, "Best Practices in Estimating the Cost of Capital: Survey and Synthesis," *Financial Practice and Education* [FPE], Volume 8, Number 1, Spring/Summer 1998, pp. 13—28.

commit company resources to investments in new markets or technologies unless the expected return on the market value of these investments in new markets or technologies is greater than or equal to the firm's cost of capital, measured on a market value basis, for projects with the same degree of risk.

V. The Proposed Definition of the Cost of Capital Is Inconsistent with the Economic Definition of the Cost of Capital.

18. The preceding sections present abundant evidence that both economic theory and market practice stipulate the use of market interest rates and market value capital structures in calculations of the weighted average cost of capital. Contrary to economic theory and market practice, the Notice contains a proposal to continue estimating the weighted average cost of capital on the basis of embedded interest rates and the average book value capital structure of incumbent LECs. The Commission should be aware that this proposal is inconsistent with sound economic theory and practice. If the Commission were to adopt the proposal to calculate the authorized rate of return on the basis of a book value capital structure, the LECs would have no economic incentive to continue to invest in their networks, and potential competitors would have no economic incentive to enter the local exchange market as facilities-based providers.

19. The Commission's policy of setting the LECs' authorized rate of return on the basis of an embedded interest rate and book value capital structure began at a time when market value and book value capital structures were reasonably similar. At year end 1984, for example, the first year of the AT&T divestiture, the average market-to-book ratio for the five remaining RHCs and GTE was approximately 1.0. At year end 1997, however, the average market-to-book ratio for these same companies was approximately 5.0, as shown in Table 1. To use an average book value capital structure to set the LECs' authorized rate of return at a time when book value no longer approximates the market value of the LECs' equity would seriously distort economic

reality, and, by denying the LECs' an opportunity to earn a rate of return that is commensurate with market returns on other investments of the same risk, would destroy the LECs' incentive to continue investing in their networks.

Table 1[6]

Company	Market Value 12/31/97	Book Value	Market-to-Book	Market Value 12/31/90	Book Value	Market-to-Book	Market Value 12/31/84	Book Value	Market-to-Book
Ameritech	44,194.500	8,308.000	5.3	17,644.289	7,732.398	2.3	7,528.911	7,087.496	1.1
Bell Atlantic	70,666.050	13,900.802	5.1	21,085.261	8,930.000	2.4	8,006.736	7,508.496	1.1
BellSouth	55,861.504	15,669.000	3.6	26,388.931	12,666.398	2.1	10,170.576	9,414.496	1.1
GTE	50,055.500	10,291.000	4.9	19,579.716	9,882.000	2.0	8,297.332	8,509.167	1.0
SBC	67,290.453	9,892.000	6.8	16,792.664	8,581.199	2.0	7,042.088	6,994.789	1.0
US West	21,863.739	4,199.000	5.2	15,297.040	9,239.594	1.7	6,790.983	6,647.500	1.0
Average	309,931.746	62,259.802	5.0	116,787.901	57,031.589	2.0	47,836.626	46,161.944	1.0

20. The economic logic underlying the estimation of the cost of capital has important implications for the Commission's decision on whether to represcribe the authorized rate of return for the interstate services of local exchange carriers. If the Commission wants to encourage facilities-based competitive entry in the market for local exchange services, the authorized rate of return for local exchange carriers must be at least as large as the return potential competitors can earn on other investments of the same risk. If potential competitors can purchase local exchange services (including access) from the incumbent LECs at rates that include a ten percent rate of return on investment, for example, they will have no incentive to enter the market as facilities-based providers of local exchange services if they can earn returns greater than ten percent on other investments of comparable risk. To provide correct incentives for entry into local exchange markets, the Commission must measure the LECs' cost of capital in the same way that potential LEC competitors measure their own costs of capital.

[6] Data from Compustat, January 1999.

21. The Commission must likewise use a market definition of the cost of capital if it wishes to promote investment and innovation in telecommunications services. In competitive markets, the LECs and their competitors can only be encouraged to invest in new technologies, products, and services if the rate of return they can earn on the market value of their investments exceeds the rate of return they could earn on the market value of other investments of the same risk.

VI. The LECs' Cost of Capital Likely Exceeds the Currently Authorized 11.25 Percent.

22. In its last prescription order, the Commission prescribed a rate of return of 11.25 percent for those LECs subject to rate of return regulation. The Commission's order specifies that the 11.25 percent authorized rate of return is based on an 8.8 percent embedded cost of debt, a book value capital structure containing 44.2 percent debt and 55.8 percent equity, and a cost of equity in the range 12.5 percent to 13.5 percent. Using the specified cost of debt and book value capital structure, along with the authorized 11.25 percent rate of return, the cost of equity implied by the 11.25 percent authorized return is 13.19 percent, as shown in Table 2.

Table 2

Component	Cost Rate	Percent	Weighted Cost
Cost of Debt	8.80%	44.2	3.89
Cost of Equity	13.19%	55.8	7.36
Total			11.25

Since the time of the last prescription, the market cost of debt has declined to approximately 7 percent. At present, the average market value capital structure of the large telecommunications companies contains approximately 20 percent debt and 80 percent equity.[7] This capital structure

[7] The average level of equity in the telecommunications companies' capital structures for the last five years is also approximately 80 percent.

is similar to the average market value capital structures of the S&P Industrials and the large interexchange carriers, as shown in Table 3.

Table 3[8]

Company Group	Market Value	Total Debt	Percent Equity
S&P Industrials	6,623,584	1,437,373	82.2%
S&P Compustat Telecom Companies	705,936	142,348	83.2%
RHCs and GTE	368,618	82,269	81.8%
AT&T and MCI	191,916	28,112	87.2%

Using a 20 percent debt/80 percent equity market value capital structure, the currently authorized 11.25 percent cost of capital implies a cost of equity of approximately 12.3 percent, as shown in Table 4.

Table 4

Component	Cost Rate	Percent	Weighted Cost
Cost of Debt	7.00%	20.0	1.40
Cost of Equity	12.31%	80.0	9.85
Total			11.25

Thus, the Commission would have to find that the LECs' cost of equity is less than 12.3 percent in order to justify lowering its current authorized 11.25 percent rate of return. That the cost of equity could have declined by 90 basis points (13.2 percent – 12.3 percent = .90) is highly unlikely given the dramatic increase in risk that has occurred since the time of the last prescription.

VII. The LECs' Investment Risk Has Increased Significantly Since The Last Prescription.

23. In assessing whether the LECs' cost of equity is likely to be less than the 12.3 percent required to produce an 11.25 percent overall rate of rate of return, the Commission should consider not only the course of interest rates since the last prescription, but also the vast

[8] Data as of September 30, 1998, from Compustat, January 1999.

changes in the telecommunications industry that have increased the risk of investing in the LECs' local exchange operations. The increased risk of investing in the LECs' local exchange operations is a direct result of: (1) increases in operating leverage; (2) increases in the level of competition; (3) rapidly changing technology, and (4) asymmetric regulation.

24. The provision of facilities-based telecommunications services is a business that requires a large commitment to fixed costs in relation to variable costs, a situation called high operating leverage. The relatively high degree of fixed costs in the provision of facilities-based telecommunications service exists because of the average LECs' large investment in fixed assets such as central office, transport, and loop facilities. The average LECs' operating leverage has increased since the time of the last prescription as a result of their increased investments in the fixed facilities and software required to provide interconnection and unbundled network elements to competitive local exchange carriers ("CLECs"). Increased operating leverage increases the sensitivity of the LECs' net income to fluctuations in revenues.

25. Competition for local exchange service has also increased dramatically since the time of the Commission's last prescription. Hundreds of competitors have now been certificated to operate as CLECs throughout the country. These CLECs have invested billions of dollars to wrest market share from incumbent LECs. Investors are optimistic about the likely outcome of the CLECs' investments.

26. Increased competition in the local exchange markets is well documented. The Common Carrier Bureau's recently issued report, "Local Competition," states that by the end of 1997, (1) CLECs' revenues increased to $3 billion, from $1.5 billion in 1996; (2) CLECs offer 14 percent of the total special access and local private line services provided to other carriers, and six percent of such services provided to end users; (3) CLECs now have at least 11 percent

of the total fiber optic capacity available to carry local calls; (4) CLECs have acquired numbering resources in every state except West Virginia; and (5) CLECs have signed collocation arrangements in ILEC switching centers serving approximately 32 percent of voice-grade customer lines in the country.[9]

27. Recent analysts' reports confirm that the CLECs' strong penetration of the local exchange market accelerated in 1998. According to Salomon Smith Barney, CLEC penetration of the local exchange market reached a "watershed" in the first quarter of 1998: the CLECs added more new business lines than the RBOCs.[10] During the second quarter 1998, CLECs took a 28 percent share of total access line net adds, up from the 22 percent share during the first quarter 1998.[11] By the close of the third quarter 1998, CLECs provided service to more than 3.7 million business lines, which represent approximately 6.7 percent of the 55 million business lines in service.[12] The CLECs' penetration rates in the local exchange are substantially higher than the penetration rates of AT&T's competitors during a comparable period following the removal of entry barriers in the interexchange market.

28. Dramatic as the growth of CLEC revenues and market share may be, current market share statistics are nonetheless a poor indicator of competitive risks in the local exchange market. An incumbent's current market share reflects its historical position as the franchised provider of local exchange services in its service territory. The privileged position of the incumbent as the franchised provider has been eliminated. Investors' perception of risk depends on expected future competition, not current competition as reflected in market share.

---

[9] "Local Competition," Industry Analysis Division of the Common Carrier Bureau, Federal Communications Commission, December 1998.
[10] "CLECs Surpass Bells in Net Business Line Additions for First Time," Salomon Smith Barney, May 6, 1998.
[11] "Competitive Local Exchange Review: Continued Strong Growth Momentum," JP Morgan, August 14, 1998.
[12] "CLECs Third Quarter Review," PaineWebber, November 13, 1998, p. 2.

29. In regard to expected future competition, investors are aware that analysts forecast tremendous gains for the CLECs. According to the Yankee Group, total CLEC revenues will grow from $3.8 billion in 1997 to $26.0 billion by 2001. PaineWebber forecasts that CLECs will capture 40 to 50 percent of business access lines by 2007.[13] With respect to the residential market, a customer survey conducted for Morgan Stanley indicates that "AT&T would take 42 percent share in a competitive market for local and long distance residential customers."[14] Investors are also aware that AT&T and MCI WorldCom are implementing strategies to take considerable market share from the LECs. As part of their strategies, AT&T and MCI WorldCom have dramatically increased their investments in the local exchange market. Within the past two years, WorldCom paid $14 billion for one CLEC, MFS, $2.9 billion for another CLEC, Brooks Fiber; and $37 billion for MCI, at least in part because WorldCom placed a high valuation on MCI's local exchange facilities. AT&T paid $11.3 billion to purchase Teleport, the largest CLEC in the industry at the time, and has offered $48 billion for TCI, the second largest multiple systems cable operator in the country. Teleport currently operates in the nation's top 66 markets, with 9,400 fiber route miles, 41 local switches, 5,000 on-net buildings, 13,500 buildings passed, and 490,000 business lines in service; and TCI currently provides cable TV service either directly or indirectly (that is, through affiliates) to approximately 20.5 million subscribers. In addition, TCI's cables pass approximately 49 million homes, one-third of the homes in the United States.[15]

30. The $11.3 billion acquisition of Teleport and the $48 billion acquisition of TCI will give AT&T a tremendous boost in its efforts to provide a complete package of long

[13] "Telecommunications Services," PaineWebber, July 27, 1998, p. 7.
[14] "Telecommunications Services," Morgan Stanley Dean Witter, August 11, 1997, p. 3.
[15] *Local Competition Report*, Vol. 7, No. 2, January 19, 1998, page 1, and "At Last, Telecom Unbound," *Business Week*, July 6, 1998, pp. 24--31.

distance, wireless, Internet access, and local exchange services to business and residential customers throughout the country. In addition, AT&T's President Mr. Armstrong has expressed his intention for AT&T to reach agreements with other cable providers so that AT&T can provide local service through direct connections to 50 million of its 90 million customers by the end of 1999.[16] To further this goal, AT&T has recently announced that it will spend an additional $2 billion in 1999 to more quickly upgrade TCI's cable systems to handle packages of TV, local phone, and Internet services. AT&T hopes to complete the upgrade of TCI's cable systems by 2000.[17]

31. Investors are also aware that AT&T and other carriers are preparing to offer local exchange service through mobile wireless technologies. AT&T is the largest provider of cellular service in the U. S., and potentially the largest provider of PCS services in the country. Numerous analysts highlight the growing worldwide acceptance of wireless as a substitute for wireline service.[18] According to a Deutsche Morgan Grenfell report, the "widely held assumption of 10—15 years ago" that wireless mobility poses no threat to the wireline network "is now almost certainly wrong."[19] A recent Deutsche Bank Research report confirms that "wireless telephones are becoming a credible wireline bypass vehicle" and a "wireline replacement product."[20] Other analysts predict that a fourth of current wireline customers will shift exclusively to wireless by 2002; and by 2007, they predict that half of current wireline customers will shift exclusively to wireless.[21]

---

[16] "AT&T Board to end Year With Talks on Cost Cuts, Possibly Huge Investments," *The Wall Street Journal*, December 17, 1997, p. B6.)
[17] "AT&T Widens Local Service Phone Plans," *The Wall Street Journal*, January 11, 1999.
[18] *The Economist*, September 12, 1998.
[19] "Investing in a World Without Wires," Deutsche Morgan Grenfell, September 18, 1997.
[20] "Investing in a World Without Wires," Deutsche Bank Research, November 13, 1998, p. 2.
[21] "The Communications Battleground," p. R4, *The Wall Street Journal Special Report on Telecommunications*, September 11, 1997.

32. Rapid advances in telecommunications technology are the third major driver behind the increasing risk of investing in the LECs' local exchange operations. Advances in semiconductor technology have both increased the capability and lowered the cost of telecommunications equipment, so other firms can compete more easily with local exchange companies. Breakthroughs are also occurring in fiber optic, data communications, and wireless technologies. The capacity of fiber optic networks is increasing dramatically, thus allowing fiber-based competitive access providers to offer more services. Recent advances in data communications and Internet protocol technologies, especially technologies for transporting voice signals over data communications networks, offer yet another opportunity for bypassing the local loop. Sprint recently announced plans to offer local exchange services over a new nationwide packet-switched data network. New data networking and Internet protocol technologies are also the major factors reducing the cost of providing local exchange services over cable networks. AT&T has announced its intention to rely on these technologies in its upgrade of the TCI network. Wireless technology is also changing rapidly. Analysts anticipate that AT&T's new fixed wireless technology will allow AT&T to completely bypass the local loop in areas not served by its recently acquired cable TV facilities. In sum, technological developments have substantially eroded the competitive advantage once enjoyed by local exchange companies.

33. Rapidly changing technology increases the LECs' risk in at least two ways. First, it threatens their ability to recover the investment cost of its new telecommunications plant. Second, it reduces the cost of entry for competitors. Rapid advances in fiber optics, wireless, and multimedia transmission technologies, for example, have shortened the economic lives of the LECs' current investments in copper-based facilities and allowed cable TV, interexchange,

and wireless companies to compete efficiently to offer local exchange service. Advances in these technologies further threaten the LECs' heavy investment in landline telecommunications service.

34. Asymmetric regulation is the fourth major driver of the LECs' increased risk since the time of the last prescription. Investors are aware that the LECs' face a number of disadvantages in their efforts to compete in a fully competitive local exchange market. First, incumbent LECs have the obligation to provide telecommunications services to all customers, even those whose rates fail to cover the cost of providing service. Telecommunications prices have historically been set to provide subsidies to high-cost customers in low density geographic areas. Such subsidies are inconsistent with the competitive framework of the Telecommunications Act of 1996 ("the Act"). In truly competitive markets, there are no sources to subsidize prices that are lower than cost. Investors are concerned that the universal service support mechanisms that will be put in place may not be sufficient to balance the incumbent LECs' obligation to continue to provide service in high-cost areas, while competitors are free to serve only the most profitable markets.

35. Second, the LECs are required by the Act to provide unbundled network elements and interconnection services to competitors, while competitors have no similar obligation to provide unbundled network elements and interconnection services to the LECs or others. Thus, under the current state of affairs, unlike their competitors, the LECs can never obtain a competitive advantage from investments in new technologies. For example, if AT&T is able to provide a complete package of video, Internet, and voice services from its investments in TCI, AT&T will have a significant competitive advantage compared to LECs who are unable to offer such bundled services. However, if the LECs are able to enhance the local portion of their

service offerings through upgrades of their networks, they are required to share these benefits with all competitors, including AT&T.

36. The above evidence indicates that the risk of investing in the LECs' local exchange operations has increased dramatically since the time of the Commission's last prescription. There can be little doubt that investors demand a higher return in compensation for increased risk. Although interest rates have declined since the time of the Commission's last prescription, it is highly unlikely that the cost of equity could have decreased by more than 90 basis points at the same time that risk has increased so dramatically. Indeed, it is more likely that the cost of equity has increased since that time.

VIII. Conclusion

37. The proposed book value method for estimating the LECs' weighted average cost of capital is inconsistent with both: (1) the market value definition of the weighted average cost of capital required by economic theory and market participants; and (2) the Commission's goal of providing correct economic signals for entry, investment, and innovation decisions in telecommunications markets. The evidence is overwhelming that capital market participants use market values rather than book values to measure their required rate of return on investment. Reasonable estimates of the LECs' cost of capital, using an economically correct definition of the cost of capital, are likely to exceed the Commission's currently authorized 11.25 percent rate of return for the LECs. Since the Commission's ultimate goal is to promote efficient entry in telecommunications markets, it should let the capital markets determine the LECs' rate of return on investment.

STATE OF NORTH CAROLINA)
)
COUNTY OF Durham)

James H. Vander Weide, being first duly sworn, deposes and says that he has read the foregoing affidavit of James H. Vander Weide, and that the matters and things set forth therein are true and correct to the best of his knowledge, information, and belief.

James H. Vander Weide
James H. Vander Weide

Subscribed and sworn to before me this 12 day of JANUARY, 1999.

Carol N Lowans
Notary Public In and For the State of North Carolina

My commission expires on 12-2-2001.